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(54) ADDITIVE FOR TOBACCO

(71) We, IMPERIAL GROUP LIMITED, a British Company of Imperial House, 1, Grosvenor Place, London SW1X 7HB, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to an additive for tobacco and more particularly relates to a smokeable tobacco product, for example a cigarette or cigar, which is provided with a carbon additive. The invention also relates to a method of providing tobacco with the pores to provide a large surface area, is used carbon additive.

Carbon, generally carbon with multiple in certain cigarette filters where its well known adsorbent property is utilised to remove some of the vapour phase of the tobacco smoke. However, not all cigarette brands are provided with filters. The present invention enables carbon to be used in a smokeable tobacco product even though no filter may be present.

According to one aspect of the invention, there is provided a smokeable tobacco product comprising a filler surrounded by a wrapper, wherein the filler comprises tobacco coated with carbon particles and an adhesive additive which promotes the adhesion of the carbon particles to the tobacco.

According to another aspect of the invention, there is provided a method of coating tobacco filler with carbon particles before its incorporation in a smokeable tobacco product wherein tobacco filler is mixed with water, an adhesive and carbon particles and subsequently dried to a required moisture content.

The invention will now be described with reference to the following Examples.

Example 1

Shredded filler tobacco for a cigarette is moistened by spraying with a controlled flow of atomised water from one or more stainless steel nozzles. The wetted tobacco is then thoroughly mixed with carbon particles and

a suitable adhesive in a stainless steel tumbling drum.

Subsequent processing involves conveying the resultant carbon-coated filler to a drier where final moisture content is controlled. The coated filler is then fed to a cigarette making machine.

The carbon used is activated porous charcoal of a wood or coconut-shell origin ground to 150—300 mesh. The adhesive can be starch or gum acacia. The composition of the coated filler by weight is 5% to 25% carbon and adhesive the remainder being cigarette filler tobacco. Adhesive accounts for about 12% of the combined weight of carbon and adhesive.

Example 2

An aqueous slurry of carbon particles and adhesive is prepared in a mixing vessel. The slurry is then pumped to a stainless steel tumbling drum where it is sprayed onto shredded or threshed filler tobacco via one or more atomising stainless steel nozzles. The slurry flow rate is controlled by a flow meter and is proportional to the weight of filler tobacco being processed.

Subsequent processing involves conveying the carbon-coated filler to a drier where the final moisture content is controlled. The coated filler is then fed to a cigarette making machine or to a cigar making machine as appropriate. In the case of a cigarette, the column of coated tobacco filler is in contact with and held by a conventional wrapper of cigarette paper. In the case of a cigar having a filler a tubular binder and an outer wrapper of cigar leaf, the coated tobacco constitutes the filler.

The carbon used is activated porous charcoal of a wood or coconut-shell origin ground to a 150—300 mesh. The adhesive can be starch or gum acacia. The range of composition of the coated filler is the same as for Example 1.

In both Examples it has been found that during test smoking of the cigarette the carbon particles in the cut filler produced the following reductions by weight in the mainstream smoke as compared with a control

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PATENT SPECIFICATION

(11) 1 512 352

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This invention relates to an additive for tobacco and more particularly relates to a smokeable tobacco product, for example a cigarette or cigar, which is provided with a carbon additive. The invention also relates to a method of providing tobacco with the pores to provide a large surface area, is used carbon additive.

Carbon, generally carbon with multiple in certain cigarette filters where its well known adsorbent property is utilised to remove some of the vapour phase of the tobacco smoke. However, not all cigarette brands are provided with filters. The present invention enables carbon to be used in a smokeable tobacco product even though no filter may be present.

According to one aspect of the invention, there is provided a smokeable tobacco product comprising a filler surrounded by a wrapper, wherein the filler comprises tobacco coated with carbon particles and an adhesive additive which promotes the adhesion of the carbon particles to the tobacco.

According to another aspect of the invention, there is provided a method of providing tobacco with the pores to provide a large surface area, is used carbon additive.

The invention is particularly applicable to the case of a cigarette the

Shredded moistened tobacco is used

a suitable adhesive in a stainless steel tumbling drum.

Subsequent processing involves conveying the resultant carbon-coated filler to a drier where final moisture content is controlled. The coated filler is then fed to a cigarette making machine.

The carbon used is activated porous charcoal of a wood or coconut-shell origin ground to 150—300 mesh. The adhesive can be starch or gum acacia. The composition of the coated filler by weight is 5% to 25% carbon and adhesive the remainder being cigarette filler tobacco. Adhesive accounts for about 12% of the combined weight of carbon and adhesive.

Example 2

An aqueous slurry of carbon particles and adhesive is prepared in a mixing vessel. The slurry is then pumped to a stainless steel tumbling drum where it is sprayed onto shredded or threshed filler tobacco via one or more atomising stainless steel nozzles. The slurry flow rate is controlled by a flow meter and is proportional to the weight of filler tobacco being processed.

Subsequent processing involves conveying the carbon-coated filler to a drier where the final moisture content is controlled. The coated filler is then fed to a cigarette making machine or to a cigar making machine as appropriate. In the case of a cigarette the

ERRATA

SPECIFICATION No. 1,512,352

Page 1, line 15, *delete* whole line
 Page 1, line 17, *after* multiple *insert* pores to provide a large surface area, is used

THE PATENT OFFICE
 6th November, 1978

that the induced

cigarette which did not have a carbon-coated filler.

		Reduction in PM (wnf)	Reduction in nicotine
5	Control (no additive)	—	—
	Tobacco coated with 10% carbon/adhesive mixture.	22%	23%
10	Tobacco coated with 25% carbon/ adhesive mixture	50%	56%

It is believed that during smoking, particulate matter is absorbed from the smoke by the external coating of carbon particles on each leaf portion of the filler and held until the arrival of the burning coal, whereupon the absorbed matter is pyrolysed to gaseous oxides. Because the leaf portions are coated with the carbon the latter is exposed as much as possible to the smoke, thereby promoting its absorption function.

It is also believed that since the carbon particles are added to the tobacco filler in its shredded or threshed form, which is then made up into the smokeable product without further mechanical processing of the tobacco, the full potential absorption capacity of the porous carbon is preserved.

The reduction in nicotine during smoking means for example that the invention can be used on cigar tobacco with a high nicotine content, e.g. Brazilian tobacco, so as to reduce the nicotine content in the mainstream smoke, making it less harsh and so more acceptable.

The use of the water and adhesive reduced considerably the risk of contamination of the machinery or operators by the carbon particles or dust.

WHAT WE CLAIM IS:—

1. A smokeable tobacco product comprising a filler surrounded by a wrapper, wherein

the filler comprises tobacco coated with carbon particles and an adhesive additive which promotes the adhesion of the carbon particles to the tobacco.

2. A product according to Claim 1, wherein the tobacco filler is essentially shredded or threshed tobacco leaf portions.

3. A product according to Claim 1, wherein the carbon particles are ground activated porous charcoal.

4. A product according to Claim 1 or Claim 3, wherein the product is a cigarette having a column of the tobacco filler in contact with a wrapper of cigarette paper.

5. A product according to Claim 1 or Claim 3, wherein the product is a cigar.

6. A product according to Claim 1 or Claim 3, wherein the tobacco filler comprises 5%—25% by weight of carbon particles and adhesive additive, the remainder being tobacco.

7. A product according to Claim 1, wherein the adhesive additive is starch or gum acacia.

8. A method of coating tobacco filler with carbon particles before its incorporation in a smokeable tobacco product wherein tobacco filler is mixed with water, an adhesive and carbon particles and subsequently dried to a required moisture content.

9. A method according to Claim 8, wherein the tobacco filler is essentially shredded or threshed tobacco leaf portions.

10. A method of coating tobacco filler with carbon particles substantially as described herein with reference to Example 1 or to Example 2.

11. A smokeable tobacco product having a tobacco filler coated with carbon particles according to the method of any of claims 8—10.

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